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Original article

Psychological consequences of the COVID-19 pandemic: A qualitative study

Conséquences psychologiques de la pandémie de COVID-19 : une étude qualitative

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ABSTRACT

Multiple psychological health problems related to the COVID-19 pandemic among both the general public and health-care workers have been identified in the scientific literature. However, most studies used quantitative methods with scales selected on the basis of the researchers' pre-established knowledge derived from the experience of other situations and which can therefore induce biases. The dual aim of the present study was to explore qualitatively the perceived psychological consequences of lockdown on members of the general public and the perceived psychological consequences of COVID-19 on health-care workers. We recruited 241 participants from the general public and 120 health-care workers. They consented online to participate and completed open-ended questions evaluating the consequence of the health crisis on their life as a couple, on their friendships, family life, work, studies, psychological health, stress, and vision of the future. Finally, participants were asked to add any further consequences that had not been mentioned. We used double coding to process the data. We identified five main themes among the participants from the general public: improved and maintained social relationships, deterioration of health, improved health, personal growth, and lack of direct social contact. We also identified five main issues among the health-care workers: psychological and emotional impact, adjusting, negative impact on work, worries, and uncertainty about the future. The results confirmed the existence of psychological health problems related to the COVID-19 pandemic. They also highlighted positive consequences. Health-care workers tended to perceive more negative consequences than the participants from the general public.

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RÉSUMÉ

De multiples problèmes de santé psychologique, liés à la pandémie de COVID-19, parmi le grand public et les personnels soignants, ont été identifiés dans la littérature scientifique. Cependant, la plupart des études ont utilisé des méthodes quantitatives avec des échelles sélectionnées par les chercheurs sur la base des connaissances préétablies issues de l'expérience d'autres situations et qui peuvent donc induire des biais. En effet, les échelles utilisées présentent un certain nombre de limites : elles n'ont pas été conçues pour évaluer les difficultés émotionnelles spécifiquement liées au COVID-19, elles ont tendance à surévaluer les difficultés émotionnelles, et elles sont composées de questions fermées. Ces méthodes peuvent donc échouer à identifier des informations qui peuvent être obtenues par un raisonnement hypothético-déductif. Or, il est largement admis que les études qualitatives doivent être utilisées pour explorer de nouveaux phénomènes et identifier leurs caractéristiques importantes, avant de recourir aux études quantitatives. Cependant, à notre connaissance, seules quelques études ont utilisé des méthodes qualitatives pour explorer les conséquences psychologiques de COVID-19. Cependant, l'utilisation

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d'entretiens semi-structurés prend du temps, rend difficile la généralisation des conclusions et ces études ne peuvent être réalisées qu'avec de petits échantillons. Le double objectif de la présente étude était d'explorer qualitativement les conséquences psychologiques perçues du confinement sur le grand public et les conséquences psychologiques perçues du COVID-19 sur les personnels soignants. L'expérience et les procédures de consentement ont été approuvées par le Comité d'éthique de l'université (Comité d'éthique de la recherche Tours-Poitiers). Au total, 241 participants du grand public et 120 personnels soignants ont été recrutés sur les réseaux sociaux. Ils ont consenti à participer à un questionnaire ligne et n'ont reçu aucune compensation pour l'étude. Les participants du grand public ont d'abord fourni des informations sociodémographiques, puis ont répondu à 9 questions ouvertes évaluant les conséquences du confinement sur leur vie de couple, leurs relations amicales, leur vie familiale, leur travail, leurs études, leur santé psychologique, leur stress et leur vision de l'avenir. De même, les personnels soignants ont fourni des informations sociodémographiques, puis ont décrit les conséquences du coronavirus sur leur vie de couple, leurs relations amicales, leur vie familiale, leur travail, leur santé psychologique, leur stress et leur vision de l'avenir. Enfin, l'ensemble des participants ont été invités à ajouter toute autre conséquence qui n'aurait pas été mentionnée. Les données ont été traitées par un double codage. Une première lecture des données a été effectuée pour se familiariser avec les réponses, puis celles-ci ont été relues et codées. Un code a été créé pour chaque information. Les données ont été doublement codées; les données du grand public ont été codées d'abord par le deuxième auteur et ont ensuite été vérifiées par le premier auteur. L'ordre a été inversé pour les données relatives aux personnels soignants. Les désaccords mineurs ont ensuite été discutés et ont été résolus. Ensuite, les codes ont été classés sous-thèmes, réunis par la suite en thèmes. Enfin, à l'instar du processus de codage, une seconde lecture a été effectuée sur les catégorisations en thèmes et sous-thèmes. Les désaccords mineurs ont ensuite été à nouveau discutés et ont été résolus. Concernant les résultats, 23 thèmes ont été identifiés pour le grand public dont les 5 principaux sont : l'amélioration et le maintien des relations sociales, la détérioration de la santé, l'amélioration de la santé, la croissance personnelle et le manque de contact social direct. Pour les personnels soignants, 25 ont été identifiés dont les 5 principaux sont : l'impact psychologique et émotionnel, l'adaptation, l'impact négatif sur le travail, les inquiétudes et l'incertitude quant à l'avenir. Dans la lignée des études précédentes, les analyses ont confirmé l'existence de problèmes de santé psychologique liés à la pandémie de COVID-19 tels que le stress, la dépression et les troubles du sommeil. Comme plusieurs travaux scientifiques publiés, les analyses ont également démontré l'expression d'une solitude importante causée non seulement par le manque de contacts sociaux, mais aussi par le manque de contacts physiques directs. Toutefois, contrairement aux études quantitatives, les analyses ont révélé des conséquences positives telles que l'augmentation du temps libre et la possibilité de renforcer les relations familiales et amicales grâce à l'utilisation des technologies de communication, de faire une introspection et d'apprendre de nouvelles connaissances et compétences. Or, nous n'avons pas trouvé de résultats similaires dans la littérature internationale. Cette observation souligne l'importance des études qualitatives afin de mieux comprendre les conséquences psychologiques de la pandémie de COVID-19. D'autres études sont nécessaires pour déterminer les conséquences positives de ce type de situation. Enfin, les limites de l'étude sont discutées.

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1. Introduction

On 21st January 2020, the World Health Organization published its first report of the existence of coronavirus disease 2019 (COVID-19). To slow down the spread of the virus, many countries imposed lockdown measures. This was an unprecedented global situation, with many psychological consequences for individuals.

Studies evaluating the psychological consequences of the COVID-19 pandemic have been carried out in numerous countries. They have reported symptoms of depression [1–5], anxiety [1–3], stress [4,5], post-traumatic stress [1,3,5,6], poor sleep quality [3,6], loneliness [7], adjustment difficulties [8] and substance abuse [9]. A review of 13 studies on the psychological consequences of COVID-19 confirmed the high prevalence of anxiety, anger, stress, post-traumatic symptoms and loneliness [10].

Because they are particularly exposed to COVID-19, some studies focused specifically on health-care workers. They identified symptoms of depression and anxiety [11–18], stress [12,13], post-traumatic stress [17,18], somatic symptoms and suicidal ideations [14], sleep disorders [15,16] and burnout [19,20]. A meta-analysis also confirmed some of these results, highlighting high levels of anxiety, depression, post-traumatic stress and burnout symptoms [21].

All the above-mentioned studies used quantitative methods. This is problematic due to the use of pre-existing measures developed for other issues such as depression or anxiety disorders. They may therefore have missed certain important aspects of the psychological consequences of the crisis. To address this limitation, qualitative studies have also been performed to evaluate the psychological consequences of the crisis among healthcare workers [22–26]. Overall, these studies highlighted emotional difficulties such as anxiety, helplessness and deterioration of family life, but also some positive consequences such as developing coping strategies, gaining experience and ability to adapt. However, these studies mostly used semi-structured interviews, limiting the sample size and therefore generalization of the conclusions. Moreover, no studies have been performed on the overall consequences of the crisis among the general population. Studies have been performed with specific groups (e.g. infected patients [27], patients suffering from ADHD [28], patients suffering from diabetes [29], elderly people [30]) and themes (e.g. loneliness [31], post-lockdown perception [32], marital difficulties [33]), but there has been little exploration of the psychological impact of lockdown in the general public.

The dual aim of the present study was thus to use open-ended questions to explore the global psychological consequences of

lockdown in the general public and the psychological consequences of working with COVID-19 patients for health-care workers.

2. Method

2.1. Participants

We recruited two samples of participants through social networks, between 19 April and 11 May 2020. Participation required reading an information note online, ticking a box to consent to participate. The experiment and consent procedures were approved by the ethics committee of the University.

We recruited 241 participants (197 women) from the general public. Their mean age was 37.49 ± 14.58 , and mean number of hours of work per week was 31.74 ± 12.07 . Marital status, education level, occupation, and where they lived during lockdown are presented in Table 1.

We recruited 120 health-care workers (110 women). Their mean age was 40 ± 11.31 and mean hours of work per week was 32.9 ± 13.16 . Marital status, education level, occupation, and where they lived during lockdown are presented in Table 1.

2.2. Measures

Participants first provided sociodemographic information and then answered 9 open-ended questions. Participants were asked to describe the consequences of lockdown (for the general population)/coronavirus (for the health-care workers) on their relationships and friendships, family life, work, studies, psychological health, stress, and their vision of the future. Finally, they were asked to add any other consequences.

2.3. Data analysis

This research was designed according to the Consolidated Criteria for Reporting Qualitative Studies (COREQ) criteria [34]. We used thematic analysis to process the data [35]. A first reading of the data was carried out to become familiar with the answers then these were re-read and coded. A new code was created for each extra item of information. The data were double-coded; the data of the general public were coded first by the second author and then by the first author. The order was reversed for the health-care worker data. Minor disagreements were resolved, and the codes were categorized in themes and sub-themes. Finally, the two authors independently coded the data again and minor disagreements were resolved.

3. Results

3.1. General public

We identified 23 themes for the general public (Table 2). The five main themes were: improved and maintained social relationships, health deterioration, improved health, personal growth, and lack of direct social contact. These themes were mentioned by more than half of the sample.

Theme 1: improved and maintained social relationships. Most of the participants (80.84%) mentioned repeatedly that lockdown was an opportunity to contact and have more discussion time with friends, family and partner:

“In general, I would say relationships have been strengthened by exchanging messages more regularly”.

They frequently mentioned the use of social media:

“We communicate a lot through WhatsApp, videos, pre-dinner drinks, quiz with photos when we go for a walk, so it shouldn't change anything. On the contrary, it strengthens our friendships. My husband and his friends played Belote [a card game] on line. The essential thing is to use your brains!”

Many participants mentioned that it gave them an opportunity to call relatives and reconnect with those they had not heard from, which they do not normally have time to do because of work and other activities. Participants also reported more emotional support, closeness and shared activities with their loved ones. Overall, the free time provided by lockdown resulted in improved social interaction with an increase in the frequency and quality of contact.

Theme 2: health deterioration. Participants (75.48%) frequently mentioned the negative impact on their health, in particular, psychological problems such as an increase in stress. They mentioned that stress was difficult to manage, especially at the start of lockdown:

“The stress increased quickly and it gets more and more difficult to manage (worrying about employment and salary).”

They cited a number of causes of stress (e.g., fear related to COVID-19, concern for relatives, fear related to the future):

“I'm usually stressed. Lockdown made me more anxious for many reasons: financial worries, worrying about my family's health, my health, the mental health of my grandmother who's 76 years old and lives on her own”.

Participants also mentioned more depression, negative moods, sadness, boredom, exhaustion, sleep problems and disturbed rhythm of life. Finally, some of the participants mentioned an aggravation of existing health problems. Some of them felt useless.

Theme 3: improved health. Some participants (61.30%) described improved health. They mentioned less stress and better stress management:

“Much less stressed. Being able to manage my time, being at home and able to have a break whenever I want or do things if and when I feel stressed.”

“Less stressed, easy stress management due to having the time and possibility to relax.”

They also mentioned positive feelings (e.g., serenity, hope, optimism), more physical activity and better quality of sleep (e.g., reduction of insomnia).

Theme 4: personal growth. Some participants (54.79%) mentioned the possibility of personal growth. They said that free time had enabled them to have a better understanding of themselves and that they had changed their behavior to develop positive habits:

“After a month, I learnt a lot about myself, I meditated, I took time to do things and to think about myself. I think it will make me stronger.”

“I took time for myself, and learnt to sew. It was a break in our lives in the fast lane.”

They had the opportunity for introspection, to have time for themselves, for learning, adjusting and resilience. They also questioned themselves (e.g., awareness of feeling dissatisfied with their work), thought about their personal and professional projects (e.g., learn a new job, learn new skills).

Theme 5: lack of direct social contact. Finally, some participants (51.72%) described their frustration related to lack of direct social contact:

“It's frustrating not to see each other.”

They explained that they used social media to talk to others but that it is not the same as having direct contact:

Table 1
 Descriptive data.

	General public Percentage	Health-care workers Percentage
Marital status		
In a partnership	68.05	80
Education level		
Below baccalaureate	5.81	2.5
Baccalaureate	10.79	6.67
1–3 years of higher education	28.63	45.83
4–5 years of higher education	45.23	39.17
More than 5 years of higher education	9.54	5.83
In lockdown with		
Partner	46.89	37.5
Family	30.29	41.97
Alone	19.09	19.17
Friends or flatmates	3.73	1.67
Activity		
Employed	68.8	100
Middle manager	51.55	Nurse 34.17
Salaried worker	24.22	Speech/language therapist 19.17
Intermediary activity	8.7	Nursing assistant 16.67
Artisan, shop-keeper or company head	6.83	Physiotherapist 6.67
Other activity	8.7	Doctor 5
Full-time telecommuting	53.42	Midwife 4.17
Laid off	32.3	Other 14.17
No telecommuting	8.7	
Part-time telecommuting	5.59	
Student	12.86	
Retired	7.88	
Job-seeker	7.47	
Other	4.98	

Table 2
 Themes and sub-themes in the general public.

n	%	Theme	Sub-theme	Number sub-theme	Sub-theme percentage
211	80.84	Improving and maintaining social relationships	Improving and maintaining friendships	164	68.05
			Improving and maintaining family relationships	141	58.51
			Improving and maintaining relationship with partner	95	39.42
			Improving and maintaining links with relatives	5	2.07
			Improving and maintaining relationships in general	4	1.66
197	75.48	Health deterioration	Stress	129	53.53
			Depression	85	35.27
			Mood variations	37	15.35
			Negative states and mood	95	39.42
			Loss of bearings	5	2.07
			Sleep problems	35	14.52
			Aggravation of existing health problems	10	4.15
			Disturbed rhythm of life	4	1.66
			Other	0	0.00
			Fear related to COVID-19	74	30.71
			Fear related to the future	77	31.95
			Positive mood and good health	104	43.15
160	61.30		Improved health	Continuation and increase of physical activity	32
		Better quality of sleep		5	2.07
		Reduced symptoms of chronic disease		1	0.41
		Less exhaustion		3	1.24
		Less stress and better stress management		88	36.51
143	54.79	Personal growth	Opportunity for learning	32	13.28
			Opportunity for introspection	67	27.80
			Opportunity to have time for self	64	26.56
			Adjusting and resilience	66	27.39
135	51.72	Lack of direct social contact	Having to respect social distancing	91	37.76
			Loneliness	33	13.69
			Lack of affection	67	27.80

"We send messages or we call each other, but it's not the same."

They said that social distancing generated feelings of loneliness and a lack of affection. Some participants also reported that lockdown led to reduced sociability, withdrawal and even social phobia.

3.2. Health-care workers

We identified 25 themes for the health-care workers (Table 3). The five most highly rated themes were psychological and emotional impact, adjusting, negative impact on work, worries, and uncertainty about the future. These themes were mentioned by more than 60% of the sample.

Theme 1: psychological and emotional impact. Most of the health-care workers (86.67%) described an increase in emotional difficulties. They reported stress, exhaustion, depression, post-traumatic stress symptoms, sleeping and eating problems, addictive behavior and guilt:

"At the beginning, I was really stressed. I live in Mulhouse, a city that is particularly affected by the pandemic. At night, I woke up crying and wondering if I should leave a note for the children if I'm hospitalized!"

"Lots of nightmares. . . For the moment, I don't pay attention to my mental state, I keep focusing on my work, but I'm afraid about the future. . .".

They also mentioned negative emotions (e.g., anger, frustration, irritability, sadness, apathy), a feeling of injustice and not understanding people who did not comply with the lockdown measures.

Theme 2: adjustment. Some participants (67.5%) described how they had adjusted to the situation using different techniques to modify their professional or personal life, particularly social media:

"We had to adjust, my husband has been laid off. Everybody had to adapt. He's very understanding and sympathetic about what I'm going through at work."

"I call my brothers and sisters (and their family) and my 66-year-old mother who's living on her own. I keep in regular touch with my 90-year-old grandparents by email or phone calls through the secretary at their nursing home. I send pictures and videos."

They also mentioned how they had adjusted to the occupational health protocol.

Theme 3: negative impact on work. Some participants (65%) mentioned more difficulty at work, particularly material problems, increased workload, staff shortages, and a global deterioration of quality of life at work:

"The work is more intense because there are staff shortages but there are still emergencies."

They expressed greater emotional difficulty:

"Feeling of being imprisoned, of doing nothing except working. After a while it's exhausting. I see others who have time to do lots of things and it's a bit exasperating."

The participants reported that the deterioration in their working conditions led to greater difficulty balancing work and personal life and disconnecting from work, an increase in burnout and conflict at work, as well as reduced quality of care and communication with patients. Finally, participants also mentioned a lack of recognition at work.

Theme 4: worries. Generally, participants (63.33%) worried more: about being infected, infecting a relative, infecting a patient:

"I worry about infecting the patients I still see in rehab."
"I worry about my family. . . I don't see my children."

They also worried more about the emotional well-being of relatives and patients, money, etc.

Theme 5: uncertainty about the future. Some participants (61.67%) reported their concern about the future. They worried about how their job would be affected. It was difficult for them to imagine how things would work out:

"The uncertainty about the future, about going back to work (when, how) makes me really anxious."

"Difficult to plan, difficult to accept that there might not be a real return to normality."

They also expressed worry about a second wave of COVID-19, their professional future, the consequences of the health crisis for the economy and the ecological future of the planet.

4. Discussion

The aim of this study was to assess the psychological consequences of the COVID-19 pandemic on samples of French people using a qualitative method. In line with previous studies [1-7,9], we observed symptoms of stress, depression, sleep problems and substance abuse (theme 2). As previously demonstrated [7], our participants also experienced loneliness (theme 5). Qualitative analysis suggests that loneliness is caused not just by lack of social contact, but also by lack of direct physical contact.

Our participants also reported some positive consequences, particularly having more free time and the opportunity to strengthen their relationships through the use of communication technologies (e.g., social media, online games), to think of themselves and for personal growth (e.g., introspection, new activities, learning) (themes 1, 3 and 4). We have not found similar results in the international literature. The most frequent theme was being able to develop and maintain social relationships. This suggests that one way of coping with lockdown is to develop its positive aspects.

Our results for health-care workers are in line with those of quantitative studies [11-19], indicating emotional difficulties such as depression, stress, post-traumatic stress symptoms, sleeping problems, and burnout (theme 1). Participants also reported emotional difficulties, highlighting worries and uncertainty about the future (themes 4 and 5). We also found anger and addictive behavior (theme 1), which have been less studied among health-care workers. The health-care workers in our sample reported a negative impact of COVID-19 on their work (theme 3), which may partly explain their emotional difficulties. They also demonstrated the ability to adjust to the situation by changing their behavior (theme 2).

5. Limitations and implications

This study has a few limitations. First, most of the participants were women. Secondly, our sample of health-care workers was not representative of health professionals as a whole; in particular, there were few doctors. Finally, data were gathered during the second stage of lockdown, and it is possible that participants would have answered differently during the first stage.

It would be interesting in the future to further analyze and understand the consequences of the pandemic, particularly for health-care workers, as France is currently experiencing a significant shortage of these professionals. Indeed, as the COVID-19 pandemic is not over, identifying their experiences of this health crisis and the determinants of staying in the job is a crucial issue for the sustainability of the health services. It would thus be interesting to explore the effects of the health crisis on the professional and personal lives of a more representative sample of health-care personnel (e.g., more physicians). This would allow us to compare

Table 3
 Themes and sub-themes for health care workers.

n	%	Themes	Sub-themes	Number sub-themes	Percentage sub-themes
104	86.67	Psychological and emotional impact	Anger/frustration/irritability	38	31.67
			Mood and depressive manifestations	24	20
			Exhaustion	24	20
			Disturbance of instinctual behavior	29	24.17
			General negative psychological impact	14	11.67
			Negative impact on stress	79	65.83
			Addictions	4	3.33
			Guilt	8	6.67
			Post-traumatic stress symptoms	15	12.5
			–	–	–
81	67.5	Adaptation	–	–	–
78	65	Negative impact on work	Deterioration of quality of life at work	56	46.67
			Poor work conditions	25	20.83
			Decreased professional activity	20	16.67
76	63.33	Worries	Worrying about infection	59	49.17
			Worrying about the consequences of the health crisis	39	32.5
74	61.67	Uncertainty about future	–	–	–

the effects of the health crisis on different categories of health-care workers and identify those who experience the most serious consequences and therefore need the most help to preserve their health. Identification of the most significant job resources to protect their psychological well-being is also an important area for future research.

This study provides insight into the beneficial effects of the health crisis and lockdown (e.g., improved and maintained social relationships, personal growth). These results are innovative because they reveal the potential drivers of personal resilience to be explored for future crises [32]. A future study could focus on determining the conditions (e.g., personal, social, professional) under which these benefits can be optimized.

6. Conclusion

The COVID-19 pandemic has led to emotional difficulties among both the general public and health-care workers, with a wide range of symptoms. There have also been positive consequences, such as improved social relationships, personal growth, and better health. Finally, the consequences tend to be more negative for health-care workers than for the general public. Special attention should be paid to their emotional difficulties.

Disclosure of interest

The remaining authors declare that the research was conducted in the absence of any business or financial relationship that could be construed as a potential conflict of interest..

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